



Heliophysics Explorers Program Phase A Concept Study Kickoff Meeting Overview

Welcome and Congratulations!

Dan Moses
Heliophysics Explorers Program Scientist
August 25, 2017

Heliophysics Explorers Program Concept Study Kickoff Meeting



SMEX Missions

- **FOXSI** – NASA GSFC - PI: Christe
 - Hard x-ray imaging of Sun : Flares (very big to very small) & AR
 - **MUSE** – LMSAL –PI: Tarbell
 - EUV simultaneous multi-slit/multi temperature spectroscopy of loops
 - **PUNCH** – SWRI – PI: DeForest
 - Coronagraph and Heliospheric Imagers with 360° coverage
 - **TRACERS** – Univ. Iowa – PI: Kletzing
 - Multi-smallsat measurements of precipitating particles in cusp region traced to reconnection sites at magnetosphere boundary
 - **MEME-X** – NASA GSFC – PI: Moore
 - multi-smallsat measurements of ion outflow
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Missions of Opportunity

Mission of Opportunity Small Complete Mission

- **SunRISE** – Univ. Michigan – PI: Kasper
 - Multi-smallsat phased array for *imaging* of Type II & Type III radio
- **AWE** – Utah State University – PI: Taylor
 - ISS-based global observations of gravity waves at top of mesosphere

Partner Mission of Opportunity – Univ. New Hampshire - Kucharek

- **THOR-US** – participation in ES mission to characterize role of turbulence in magnetospheric-boundary plasma physics
- Pending ESA downselect of M5
- No further Phase A study

2016 Heliophysics Explorers SMEX and MO Kickoff, August 25 & 28, 2017

GSFC, Building 36--Various Locations:

Session Room
 Plenary: C211
 Debriefs: C211
 Awards: N207
 Lunch: C211

Dial in #: 1-844-467-6272; Passcode: 334821

Webex: Meeting #: 995 719 705 / Password: gZXHUq@4

Dial in to be provided at the start of the meeting

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August 25

Mission	1	2	3	4	5	6	7
Institution	Univ of Iowa	Utah State	Univ Michigan	LMSAL	SWRI	GSFC	GSFC
PI	Kletzing	Taylor	Kasper	Tarbell	Deforest	Moore	Christe

Start	End	Duration	Comment						
8:00 AM	8:20 AM	0:20	Plenary	Introduction - Dan Moses					
8:20 AM	8:45 AM	0:25	"	Concept Study Overview - Willis Jenkins					
8:45 AM	9:10 AM	0:25	"	TMC Requirements - Chauncey Wu					
9:10 AM	9:20 AM	0:10	"	Explorers Program Office - Greg Frazier					
9:20 AM	9:30 AM	0:10	"	Mission Assurance - Mike Jones					
9:30 AM	9:35 AM	0:05	"	International Relations - OIR					
9:35 AM	9:40 AM	0:05	"	Export Control - Juan Santos					
9:40 AM	9:55 AM	0:15	"	Launch Vehicles for SMEX's - Alicia Mendoza-Hill					
9:55 AM	10:05 AM	0:10	"	Break					
10:05 AM	10:50 AM	0:45	Individual		Debrief				Award
10:50 AM	11:35 AM	0:45	"	Award	Debrief				
11:35 AM	12:20 PM	0:45	"	Debrief	Award				
12:20 PM	1:05 PM	0:45	"	Debrief		Award			
1:05 PM	1:50 PM	0:45	"	Lunch					
1:50 PM	2:35 PM	0:45	"		Debrief	Award			
2:35 PM	3:20 PM	0:45	"		Debrief		Award		
3:20 PM	4:05 PM	0:45	"			Debrief			Award
4:05 PM	4:50 PM	0:45	"			Debrief			
4:50 PM	5:35 PM	0:45	"				Debrief		
5:35 PM	6:20 PM	0:45	"				Debrief		

Award - Contract Information

Debrief - Evaluation and Selection Process, Findings

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PI Forum

20 Sept. 2017

Register ASAP

- **SMEX:** PI, the Project Manager, Project Scientist, Project Systems Engineer, and Project Resource Control Manager – max of **7** individuals
- **MO:** PI, the Project Manager, the Project Scientist, and the Project Systems Engineer -max of **4** individuals

Team members must register using the “Mission Teams ONLY” tab on the event website:

<http://www.cvent.com/d/45qyq5/1Q>

Note the following information on the website:

- NRESS is handling registration, travel and lodging: unlike earlier years, APPEL is not involved.
 - When you register on the website, NRESS will reserve a sleeping room for you. You do not need to do this for yourself.
 - August 28, 2017 is the cutoff date for the block of sleeping rooms reserved for this event. Rooms may be available after that date, but that's not guaranteed.
 - Travel and lodging costs for participants who are not federal Civil Servants will be covered by NRESS. Travel tickets must be booked through the NRESS process.
 - For civil servants, travel and lodging must be covered from the budget for the Phase A study, or otherwise by your organization.
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Phase A Overview

- Full Mission selected teams will conduct 11-month Phase A Concept Studies, funded up to \$1.25M
 - Missions of Opportunity (MO) selected teams will conduct 11- month Phase A Concept Studies, funded up to \$400k
 - Concept Study Reports (CSRs) will be due July 30, 2018.
 - At the end of Concept Studies, NASA will conduct detailed reviews to evaluate the implementation details of the selected investigations, including any modifications of the scientific objectives, and the implementation including all technical and management factors.
 - As a result of this Phase A evaluation, at least one Small Explorer Mission investigation and one MO investigation may be confirmed for Phase B.
 - Specific attention will be paid to establishing meaningful risk characterization of alternative access to space
 - Step 1 evaluation gave “benefit of the doubt” to alternative access to space.
 - Step 2 evaluation will **require** these risks to be well understood.
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Management and Constraints

Purpose of this meeting is to provide instructions for the Phase A Concept Study.

- Phase A Study deliverables:
 - **Concept Study Report** providing sufficient implementation detail and planning to allow NASA to judge probability of mission success
 - **Complete cost or pricing data** for Phase B shall be included with the CSR for each organization. A separate bridge phase price option shall be part of the Phase B cost or pricing data.

Priced option for Bridge Phase:

- 5 months for a Full SMEX Mission
- 4 months for a Mission of Opportunity



Management and Constraints

- Each mission's Concept Study Report must conclude with a **commitment** by the PI for the cost, schedule, and scientific performance of the investigation.
- NASA cannot guarantee that the proposed funding **profile** can be accommodated within the Explorer Program's budget.
 - The funding profile for the selected mission will be negotiated during Phase B.
- During the Bridge Phase, NASA and the continued project will negotiate and sign a contract modification necessary for the remaining portion of Phase B.
- Deliverables for Phase B will be negotiated during the Bridge Phase, on the basis of information provided in the Concept Study Report.



Procurement

- Proposals must be for complete mission cycle (Phase A-Phase F).
 - Solicit science proposals with sufficient implementation information to evaluate risk, expected total cost to NASA, and commitment to other programmatic goals.
 - NASA may select one or more SMEX investigations and one or more Missions of Opportunity and award contracts for concept studies.
 - Each Phase A contract will contain a priced option for Phase B along with a Bridge Phase, to be exercised upon investigation(s) down-selected to proceed into Phase B.
 - The Bridge Phase option will allow work to be continued uninterrupted under the contract after a Step-2 down selection decision is made.
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Schedule

- The 11-month Phase A clock starts on 25 August 2017.
- Concept Study Reports (CSRs) will be due on 30 July 2018.
- Anticipate site visits will be completed no later than 14 Feb. 2019
- Dan Moses will be the overall chair of the evaluation team.
- Chauncey Wu and Washito Sasamoto (SOMA) will lead the TMC evaluations & coordinate site visits.